CI/CD

Accelerate your Software Delivery With CI/CD Practices

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Continuous integration

Continuous Integration (CI) is the process of integrating code changes from multiple contributors to create a single software project.

Continuous integration refers to the build and unit testing stages of the software release process. Every revision that is committed triggers an automated build and test

Continuous Deployment

Continuous deployment (CD) is a strategy in software development where code changes to an application are released automatically into the production environment.

This automation is driven by a series of stages like Provisioning, configuration management and predefined tests. Once new updates pass those tests, the system pushes the updates directly to the software's users.

CI/CD Benefits

- ## Faster product delivery

  With a smooth CI/CD workflow, multiple daily releases can become a reality. This increases revenue by delivering product to market in less time.

- ## Reduced risk of defects

  You can test and deploy code more frequently using a CI/CD pipeline, giving QA engineers the power to identify and fix errors as soon as they occur. This avoids cost of having security vulnerabilities and bugs in production. Giving the Developers and QA team the time to fix them before deploying to production.

- ## Quick rollback if required

  If any new code change breaks a feature or general application, you can revert to its previous stable version right away. This protects Revenue by a quick undo to return production into working state.

- ## Efficient testing & monitoring

  Using continuous monitoring, Ops teams can oversee and ensure that the application is running as expected and that the environment is stable. This could reduce risk by identifying unused infrastructure resources. Also this increases revenue by ensuring the product is being delivered to customer properly.

CI/CD Challenges

❑ Performance Issues

If CI/CD implementation is not done correctly, performance issues such as slow page loading, sluggish server responses, and memory optimization can affect your software speed, responsiveness, stability, and overall scalability.

❑ Security Vulnerabilities

Some security vulnerabilities in the CI/CD pipeline make it prone to cyberattacks. Any sensitive information in the pipeline can be stolen by the attacker, which can be disastrous.

❑ Team Communication

When you are working within a team, if something fails during the deployment, then you need to communicate with your team to resolve it quickly. Moreover, problems may arise if an automated build test finds an error and does not communicate it.